

REMARKS

Claims 1-3, 5-15 and 17 are pending in this application. By this Amendment, claims 1, 5 and 13 are amended. The amendments are made to incorporate the subject matter recited in now-canceled claim 4 into claims 1 and 13, and to account for the cancellation of claim 4. No new matter is added. Claim 4 is canceled without prejudice to, or disclaimer of, the subject matter recited in that claim. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

The Office Action, on page 4, rejects claims 1-15 and 17 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0089708 to Cheng et al. (hereinafter "Cheng") in view of U.S. Patent No. 6,185,014 to Ishii. This rejection is respectfully traversed.

Without conceding the appropriateness of the current rejections, claim 1 is amended to recite, among other features, a first-color halftone screen . . . ; a second-color halftone screen, . . . a third-color halftone screen; and a fourth-color halftone screen, wherein two first screen vectors, one in each of the first and second-color halftone screens, each first screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other, two second screen vectors, one in each of the first and second-color halftone screens, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are not parallel to each other, two second screen vectors, one in each of the third and fourth-color halftone screens, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other, and two first screen vectors, one in each of the third and fourth-color halftone screens, each first screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot

pattern of the respective halftone screen, are not parallel to each other. Claim 13 recites similar features.

No combination of Ishii with Cheng can reasonably be considered to have suggested the combinations of all the features recited in at least independent claims 1 and 13.

Cheng is directed to moiré free color halftoning that is achieved through the use of two dot screens and one or two line screens (Abstract). The Office Action, in its rejection of claims 1 and 4, concedes that Cheng does not explicitly disclose two first screen vectors, one in each halftone screen are parallel to each other, and two second screen vectors, one in each halftone screen are not parallel to each other and two first screen vectors, one in each of the third and fourth color halftone screens are parallel to each other and two second screen vectors, one in each of the third and fourth color halftone screens are not parallel to each other. Rather, the Office Action relies on Ishii, in its disclosure of multi-color image forming method and apparatus, to make up for these shortfalls.

Ishii is directed to a multi-color image forming apparatus that forms a color image by superimposing images of a plurality of colors one on another to produce high-quality color images by reducing the degree of a moiré phenomenon that may occur when the respective colors are given different screen angles (col. 1, lines 5-12). The Office Action asserts that it would have been obvious to one of ordinary skill to have modified Cheng in view of Ishii to include two first screen vectors, one in each halftone screen are parallel to each other, and two second screen vectors, one in each halftone screen are not parallel to each other, because one of ordinary skill would have had a desire to prevent a moiré phenomenon. This analysis of the Office Action fails for at least the following reason.

One of ordinary skill would not have predicatively modified Cheng in view of Ishii to have rendered obvious the combinations of all of the features recited in independent claims 1 and 13. Ishii teaches, at col. 1, lines 5-12, that the degree of a moiré phenomenon may be

reduced when respective colors are given different screen angles. Ishii further teaches, at col. 2, lines 32-37, that the screen angles are assigned to respective colors, and to produce the respective screen angles, the phase of a reference signal is shifted, on a scanning line basis so as to cause differences among the initial phases of the respective color image signals. As a result, Ishii teaches that, the centers of dots of the respective colors deviate from one another, uniformly, to thereby prevent a moiré phenomenon.

The Office Action asserts that because Ishii teaches reducing a moiré phenomenon, that it would have been obvious to simply modify Cheng in view of Ishii to prevent a moiré phenomenon. However, there is nothing in Cheng, and/or Ishii, that can reasonably be considered to have suggested two first screen vectors, one in each of the first and second color halftone screens ... are parallel to each other, two second screen vectors, one in each of the first and second-color halftone screens ... are not parallel to each other, and two second screen vectors, one in each of the third and fourth-color halftone screens ... are parallel to each other and two first screen vectors, one in each of the third and fourth-color halftone screens ... are not parallel to each other. This specific relationship between first and second screen vectors of each of their respective color halftone screens cannot reasonably be considered to have been suggested by Cheng or Ishii because Ishii merely teaches that a moiré phenomenon may be prevented.

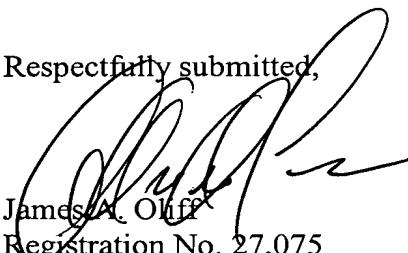
For at least the foregoing reason, no permissible combination of Cheng with Ishii would have rendered obvious the combinations of all of the features recited in independent claims 1 and 13. Further, dependent claims 2, 3, 5-12, 14, 15 and 17 would also not have been rendered obvious by the asserted combination of currently-applied references for at least the dependence of these claims on independent claims 1 and 13, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-3, 5-15 and 17 under 35 U.S.C. §103(a) over Cheng in view of Ishii are respectfully requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 5-15 and 17 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,


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